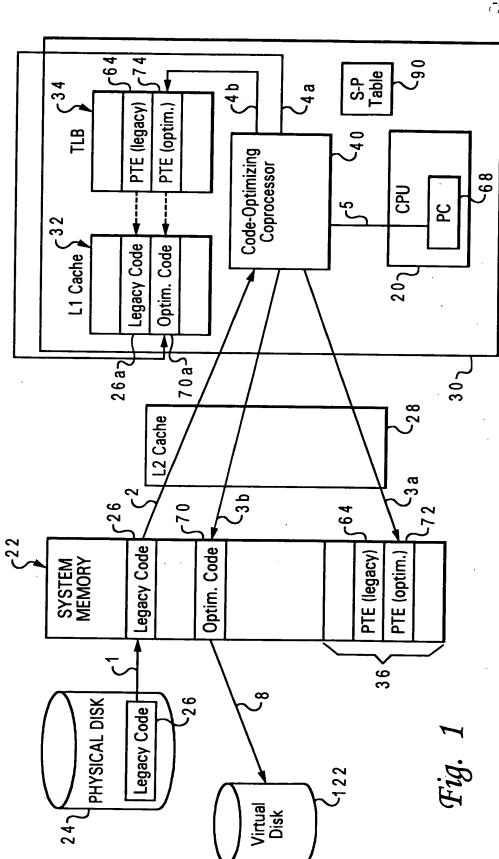BUR920000098US1
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Fig. 1

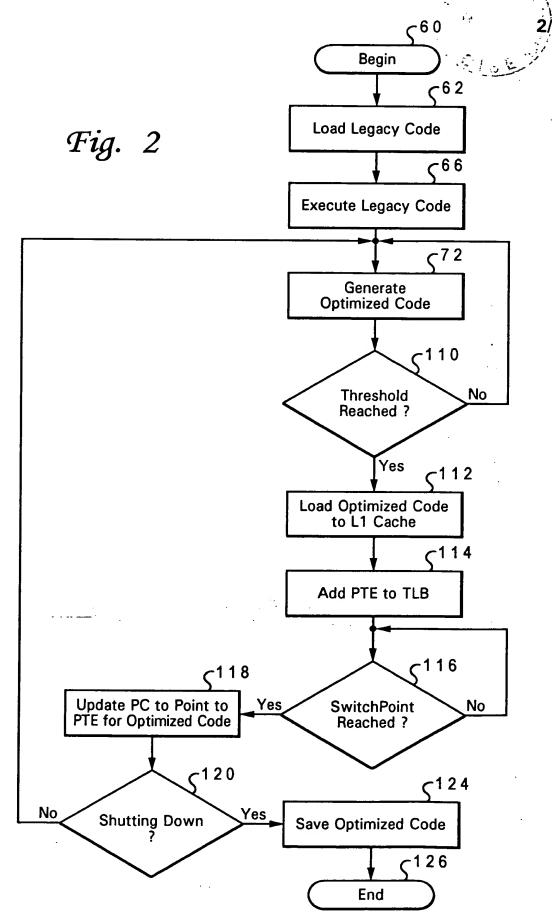BUR920000098US1
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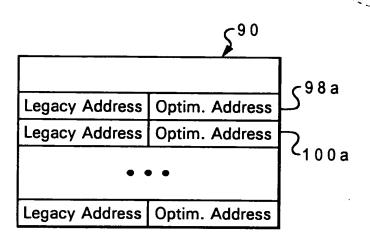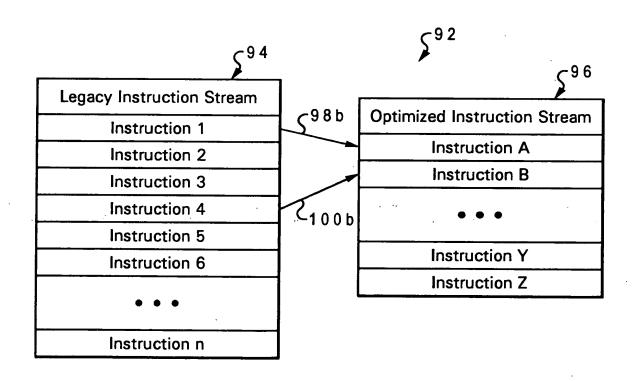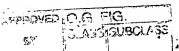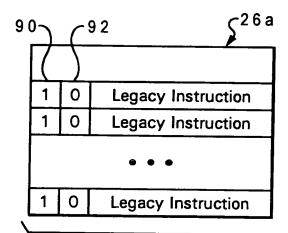Method and System for Optimizing Code Using an Optimizing Coprocessor

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Fig. 2

```
                          ┌─ 60
                    ╭──────────────╮
                    │    Begin     │
                    ╰──────────────╯
                           │
                           ▼        ┌─ 62
                    ┌──────────────┐
                    │ Load Legacy  │
                    │    Code      │
                    └──────────────┘
                           │        ┌─ 66
                           ▼
                    ┌──────────────┐
                    │Execute Legacy│
                    │    Code      │
                    └──────────────┘
                           │        ┌─ 72
                           ▼
                    ┌──────────────┐
                    │  Generate    │
                    │Optimized Code│
                    └──────────────┘
                           │        ┌─ 110
                           ▼
                      ╱─────────╲          No
                     ╱ Threshold ╲───────────►
                     ╲ Reached ? ╱
                      ╲─────────╱
                           │ Yes
                           ▼        ┌─ 112
                    ┌──────────────┐
                    │Load Optimized│
                    │ Code to L1   │
                    │    Cache     │
                    └──────────────┘
                           │        ┌─ 114
                           ▼
                    ┌──────────────┐
                    │ Add PTE to   │
                    │     TLB      │
                    └──────────────┘
                           │
                           ▼        ┌─ 116
     ┌─ 118    Yes    ╱─────────╲     No
┌──────────────┐◄────╱SwitchPoint╲──────►
│Update PC to  │     ╲ Reached ? ╱
│Point to PTE  │      ╲─────────╱
│for Optimized │
│    Code      │
└──────────────┘
       │        ┌─ 120
       ▼
   ╱─────────╲        Yes     ┌─ 124
No ╱ Shutting  ╲──────────► ┌──────────────┐
◄──╲  Down ?  ╱            │Save Optimized│
   ╲─────────╱             │    Code      │
                           └──────────────┘
                                  │  ┌─ 126
                                  ▼
                           ╭──────────────╮
                           │     End      │
                           ╰──────────────╯
```

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90

Legacy Address	Optim. Address
Legacy Address	Optim. Address
• • •	
Legacy Address	Optim. Address

98 a

100 a

Fig. 3A

94

Legacy Instruction Stream
Instruction 1
Instruction 2
Instruction 3
Instruction 4
Instruction 5
Instruction 6
• • •
Instruction n

92

96

98 b

100 b

Optimized Instruction Stream
Instruction A
Instruction B
• • •
Instruction Y
Instruction Z

Fig. 3B

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90   92   26a

1	0	Legacy Instruction
1	0	Legacy Instruction
		. . .
1	0	Legacy Instruction

v   m   70a

0	0	(Unused)
0	0	(Unused)
		. . .
0	0	(Unused)

Fig. 4A

v   m   26a

0	0	Legacy Instruction
0	0	Legacy Instruction
		. . .
0	0	Legacy Instruction

90   92   70a

1	1	Optimized Instruction
1	1	Optimized Instruction
		. . .
0	0	(Unused)

Fig. 4B